

## **GEE seismic data**

*Morgan Brown*<sup>1</sup>

### **ABSTRACT**

Reflection seismic data from Jon Claerbout's book, *Geophysical Estimation by Example* (Claerbout, 1998).

---

<sup>1</sup>**email:** [morgan@sep.stanford.edu](mailto:morgan@sep.stanford.edu)

**WESTERN GEOPHYSICAL 2-D STACK**

**Raw Data** /homes/sep/prof/gee/Data/WGstack.H

**Velocity Model** N/A

**Stack** N/A

**Zero-offset Migration** N/A

**Usage** Texture synthesis: (Brown, 1999; Claerbout and Brown, 1999)

“LOMOPLAN”: (Claerbout, 1998) **Geometry**

WGstack.H:

in="stdin"

expands to in="stdin"

esize=4

n1=1525 n2=2496 n3=1 3806400 elem 15225600 bytes

d1=0.004 d2=0.0208333 d3=1?

o1=0.004 o2=0 o3=0?

label1=time(s)

label2=Surface(miles)

**Problem** N/A

**History of Data** Acquired by Western Geophysical (year, location).

**Preprocessing** N/A

**Proprietary Considerations** N/A

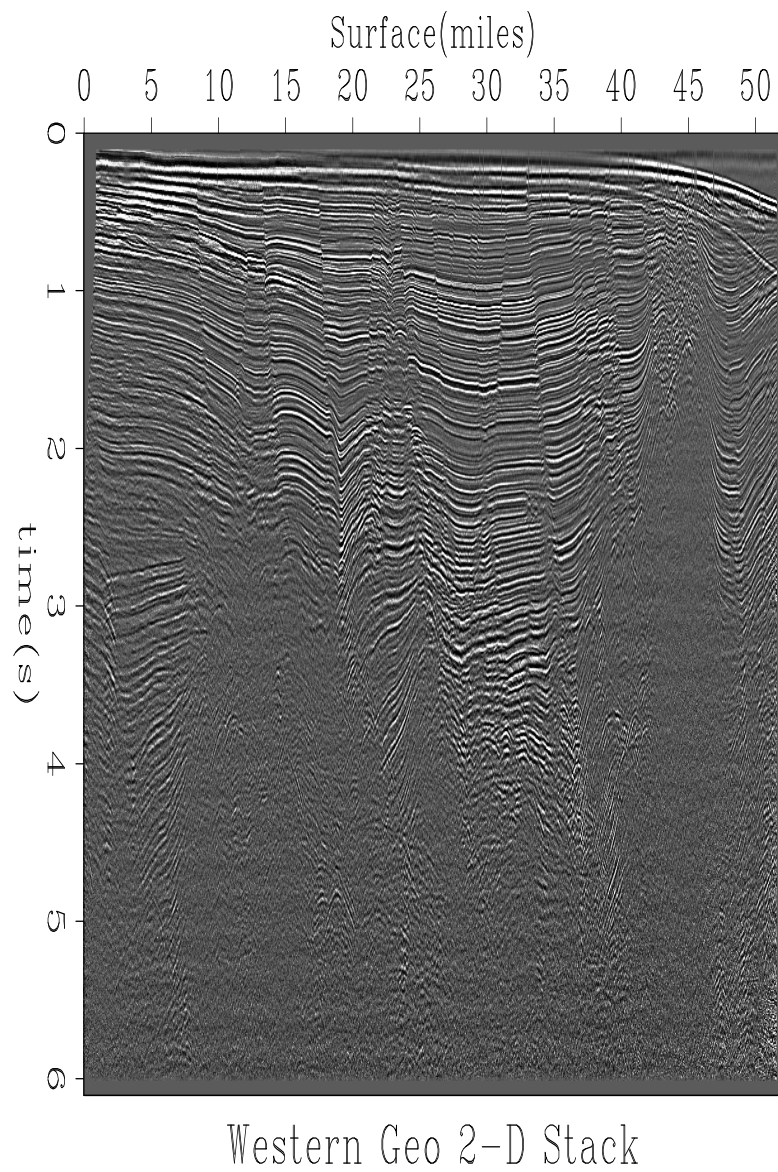


Figure 1: Western Geophysical 2-D Stack. `gee-seis-WGstack` [ER]

**2-D GRAVEL PLAIN PROFILE**

**Raw Data** /homes/sep/prof/gee/Data/gravel2D.H

**Velocity Model** N/A

**Stack** N/A

**Zero-offset Migration** N/A

**Usage** Steep-dip decon: (Claerbout, 1998)

**Geometry**

```
gravel2D.H:
  in="stdin"
  expands to in="stdin"
  esize=4
  n1=1251 n2=240 n3=1          300240 elem          1200960 bytes
  d1=0.004      d2=1      d3=1
  o1=0      o2=0      o3=0
  label1=Time, sec
  label2=Offset (trace number)
```

**Problem** N/A

**History of Data** Acquired by Saudi Aramco, (year,location), given to SEP (year) by Peter Pechols (is this right?)

**Preprocessing** N/A

**Proprietary Considerations** N/A

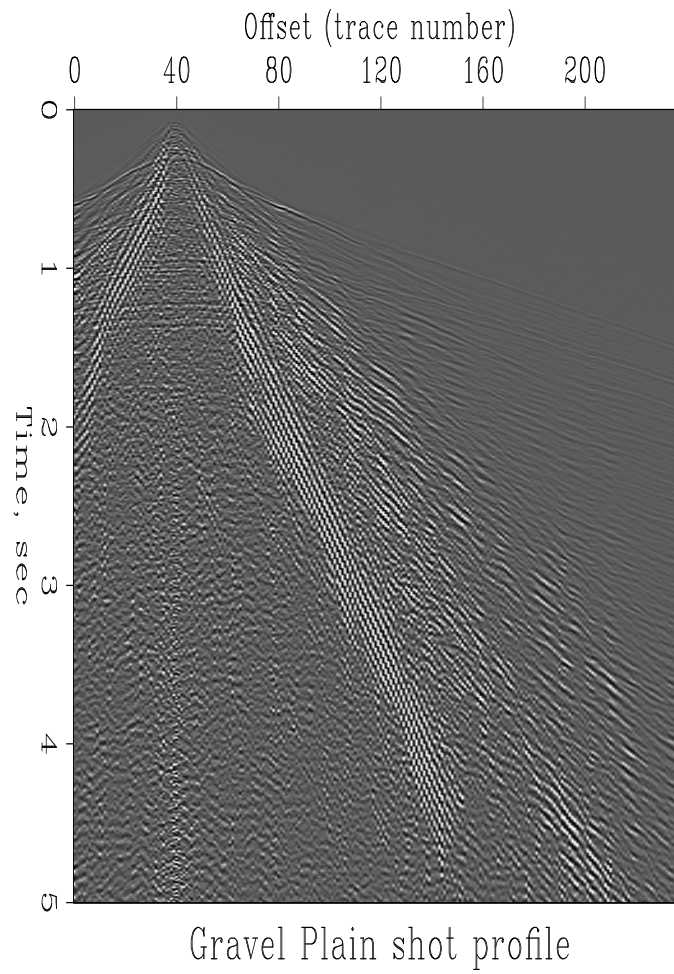


Figure 2: 2-D Gravel Plain Profile. `gee-seis-gravel` [ER]

**PETER SHEARER - IDA STACK****Raw Data** /homes/sep/prof/gee/Data/ida.H**Velocity Model** N/A**Stack** N/A**Zero-offset Migration** N/A**Usage** Steep-dip decon: (Claerbout, 1998)**Geometry**

ida.H:

in="stdin"

expands to in="stdin"

esize=4

n1=1201 n2=180 n3=1

216180 elem

864720 bytes

d1=0.166667 d2=1 d3=1?

o1=0 o2=0.5 o3=0?

label1=minutes

label2=degrees

**Problem** N/A**History of Data** Donated to SEP by Prof. Peter Shearer (UCSD). References and further information in section 9.3.1 of GEE (Claerbout, 1998).**Preprocessing** N/A**Proprietary Considerations** N/A**Location: History: Usage:**

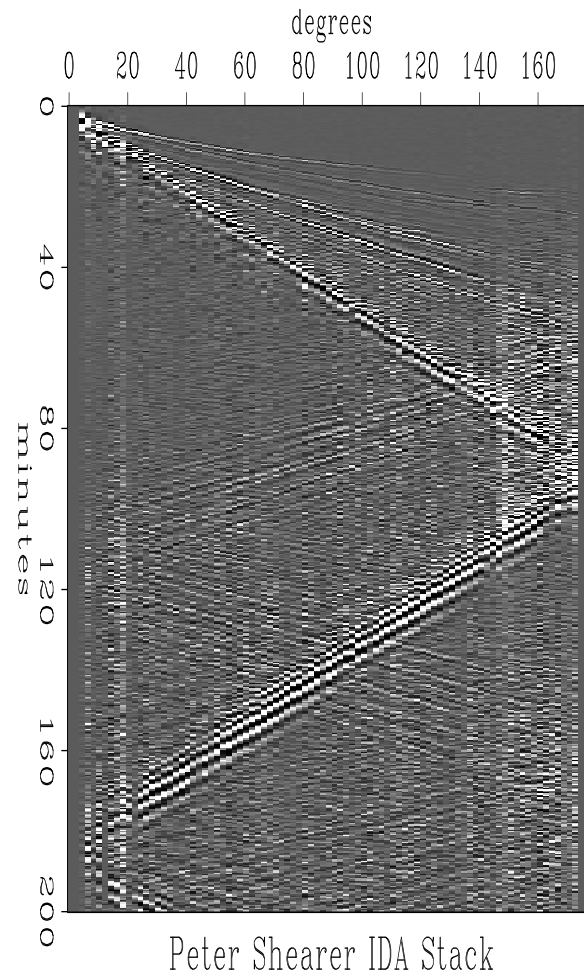


Figure 3: Peter Shearer - IDA stack. `gee-seis-shearer` [ER]

**WZ.10**

**Raw Data** /homes/sep/prof/gee/Data/wz.10.H

**Velocity Model** N/A

**Stack** N/A

**Zero-offset Migration** N/A

**Usage** Steep-dip decon: (Claerbout, 1998)

**Geometry**

wz.10.H:

in="stdin"

expands to in="stdin"

esize=4

n1=1325 n2=120 n3=1 159000 elem 636000 bytes

d1=0.004 d2=0.025 d3=1?

o1=0.004 o2=0.3 o3=0?

label1=Time(seconds)

label2=Offset(km)

**Problem** N/A

**History of Data** North African vibrator data taken from Yilmaz & Cumro. Further details in section 9.2.2 of GEE (Claerbout, 1998).

**Preprocessing** N/A

**Proprietary Considerations** N/A



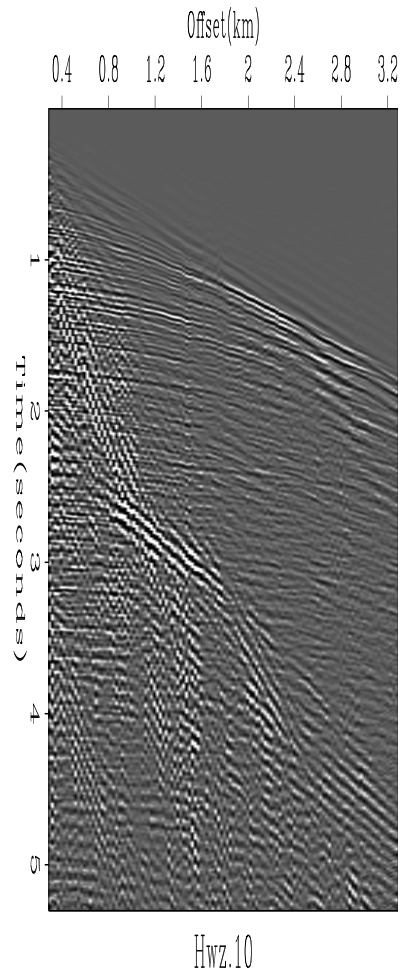


Figure 4: wz.10 `gee-seis-wz.10` [ER]

**WZ.27****Raw Data** /homes/sep/prof/gee/Data/wz.27.H**Velocity Model** N/A**Stack** N/A**Zero-offset Migration** N/A**Usage** N/A**Geometry**

wz.27.H:

in="stdin"

expands to in="stdin"

esize=4

n1=1791 n2=119 n3=1 213129 elem 852516 bytes

d1=0.004 d2=0.025 d3=1?

o1=0.004 o2=0.2 o3=0?

label1=Time(seconds)

label2=Offset(km)

**Problem** N/A**History of Data** Similar to Yilmaz & Cumro's dataset #10 (Fig. 4).**Preprocessing** N/A**Proprietary Considerations** N/A

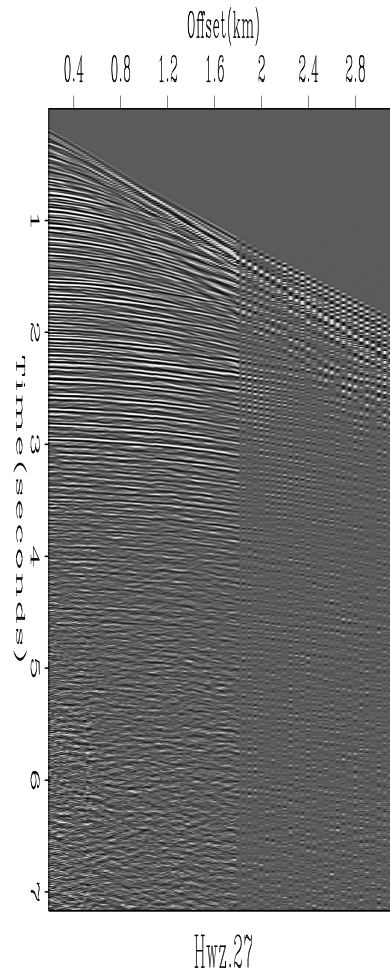


Figure 5: wz.27 gee-seis-wz.27 [ER]

**MIDEAST 3-D LAND SURVEY**

**Raw Data** /homes/sep/prof/gee/Data/dune3D.H

**Velocity Model** N/A

**Stack** N/A

**Zero-offset Migration** N/A

**Usage** Steep-dip decon: (Claerbout, 1998)

**Geometry**

dune3D.H:

in="stdin"

expands to in="stdin"

esize=4

n1=875 n2=96 n3=6 504000 elem 2016000 bytes

d1=0.004 d2=1 d3=1

o1=0 o2=0 o3=0

label1=Time

label2=Offset (trace number)

**Problem** N/A

**History of Data** Six parallel receiver lines from one shot. Nice example of 3-D ground roll.  
Donated to SEP by Peter Pecholts.

**Preprocessing Proprietary Considerations**

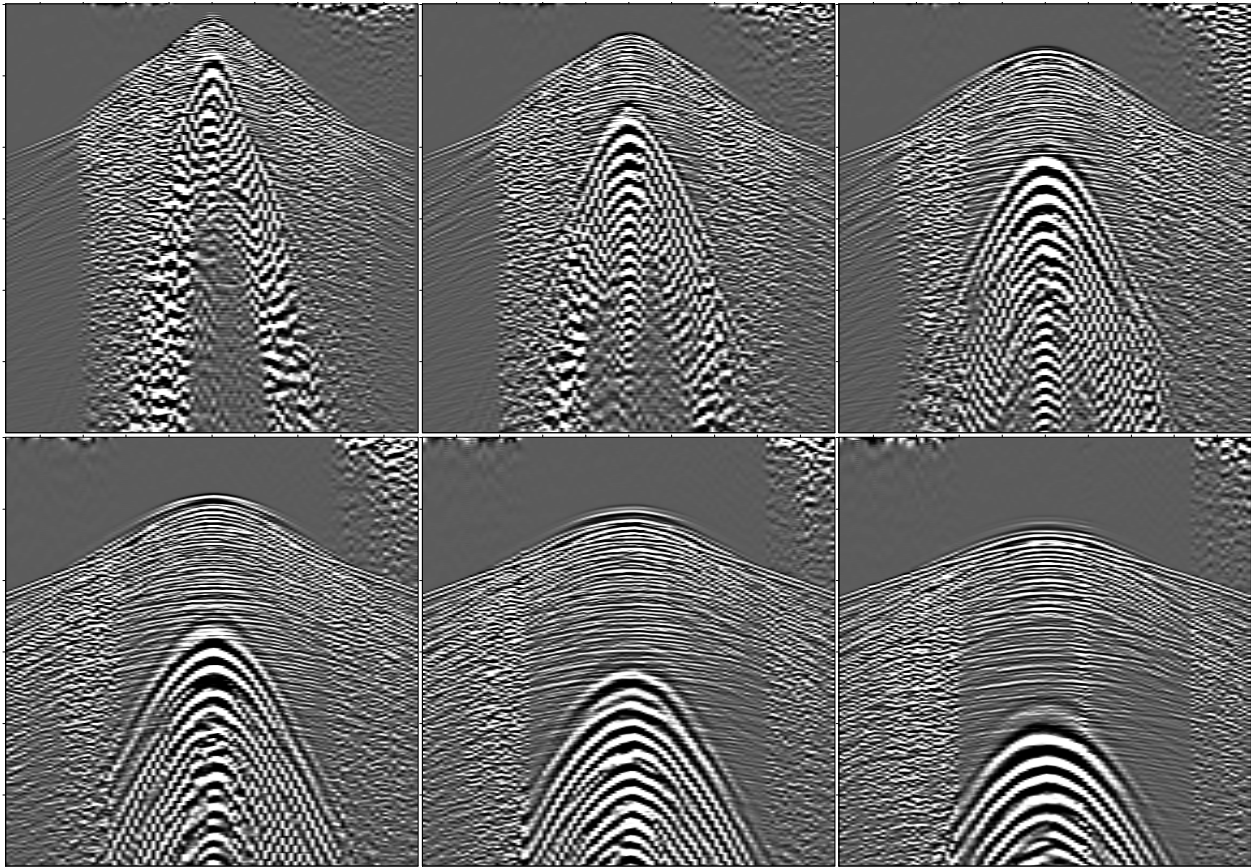


Figure 6: Mideast 3-D land survey `gee-seis-dune3D` [ER]

**REFERENCES**

Brown, M., 1999, Texture synthesis and prediction error filtering: SEP-100, 211–222.

Claerbout, J., and Brown, M., 1999, Two-dimensional textures and prediction-error filters: 61st Ann. Mtg., Eur. Assoc. Expl. Geophys.

Claerbout, J. Geophysical Estimation by Example: Environmental soundings image enhancement:. <http://sepwww.stanford.edu/sep/prof/>, 1998.

